I. AMENDMENTS TO THE SPECIFICATION

Please amend the first paragraph (inserted in the October 5, 1999 Preliminary Amendment) of the specification as follows:

RELATED APPLICATION DATA

This application is a divisional of United States Application Serial No. 09/412,681, filed October 5, 1999, now U.S. Patent No. 6,406,699 issued June 18, 2002, which is incorporated herein by reference to the extent permitted by law.

Please amend the following paragraphs of the specification (as published):

[0050] The first step in the present invention is the immunization of patients with antigens from their own malignancy. In patients who have a solid malignancy, the cancer is surgically removed to create a single cell suspension of malignant cells. The surgical specimen is enzymatically digested with enzymes manufactured by Life Technologies, Inc. under the name VIACELL®~~Viacell~~. In patients who have hematologic malignancies or solid malignancies with free cells in pleural, pericardial or peritoneal fluid, the malignant cells are obtained from the blood, bone marrow, pleural or pericardial effusion, or ascites fluid. The isolated malignant cells are irradiated at about 5,000 rads to prevent local growth. The cells are stored frozen until the vaccination is performed.

[0051] At the time of vaccination, the malignant cells are combined with an immunologic adjuvant, preferably soluble recombinant human GM-CSF that is manufactured by Immunex, Inc. under the name LEUKINE®~~Leukine~~. In the preferred embodiment, the vaccine is administered intradermally, subcutaneously, or intramuscularly to multiple (approximately 3 to 4) body sites. Each injection site receives at least 5×10^6 malignant cells and at least 100

micrograms of GM-CSF. Since the irradiated malignant cells are non-toxic, higher numbers could be safely injected to improve the immune response.

[0057] In the preferred embodiment, the peripheral blood T lymphocytes are stimulated in culture with mouse monoclonal anti-CD3 that is manufactured by Ortho Pharmaceuticals under the name OKT3. However, other non-specific T-lymphocyte stimuli, such as staphylococcus enterotoxin or bryostatin-1 may be substituted for the anti-CD3. While the stimulus need not be able to bind to the antigen receptor or to antigen receptor associated proteins, the stimulus must be capable of stimulating primed T cells to differentiate into effector T lymphocytes that maintain tumor antigen specificity and effector activity. In the preferred embodiment, the optimal concentration of anti-CD3 for stimulating differentiation of antigen primed T lymphocytes into effector T lymphocytes is between 0.01 and 100.0 nanograms/milliliter. In the preferred embodiment, peripheral blood T lymphocytes are exposed to anti-CD3 for about 24 to 48 hours, then IL-2 is added to the cultures. Interleukin-2 is manufactured by Chiron Pharmaceutical, Inc. under the name PROLEUKIN® ~~Proleukin~~.

[0071] Two weeks after the second immunization, mononuclear white blood cells ("WBCs") were isolated from non-mobilized peripheral blood through a Quinton catheter in the subclavian vein using a cell separator. The total number of leukocytes obtained from individual leukaphereses varied between about 5×10^9 and 3×10^{10}. Patients were leukapheresed two or three times on successive days for each treatment. Differential counts were obtained on all samples. Lymphocytes contributed between 40-90% of total cells. RBCs were removed from all samples by selective lysis with tris-ammonium chloride prior to culture. WBCs were suspended in tissue culture medium supplemented with antibiotics and autologous serum (culture medium).

Anti-CD3 (ORTHOCLONE® OKT3) was added to the cell mixture, and the cells were placed in tissue culture flasks. Cells were incubated at approximately 37°C. for about 48 hours. IL-2 (100 IU/ml) then was added to the anti-CD3 stimulated cells. Cells then were grown for three to five days and, after reaching maximum density, cells were harvested into IV infusion bags. Count and viability were determined. Morphologic analysis was performed by differential counting of cytocentrifuged, stained cells. The harvested cells were tested for endotoxin and microbial and fungal contamination.

[0073] Patients received ~~Compazine®~~ COMPAZINE® (prochlorperazine edisylate, 10 mg IV push), ~~Benadryl®~~ BENADRYL® (diphenhydramine hydrochloride, 25-50 mg IV push) and ~~Tylenolo®~~ TYLENOL® (acetaminophen, 650 mg PO) prior to infusion of cells. Sterile, endotoxin free cells were infused into patients through a peripheral vein over a 1-3 hour period in an outpatient IV infusion facility. The numbers of cells infused are detailed in Table 3. If patients experienced chills, they received ~~Demerol®~~ DEMEROL® (meripidine hydrochloride, 25 mg IV push) that was repeated as needed. Patients were monitored for toxicity for three hours following completion of cell infusion.